

## DOCUMENT RESUME

ED 199 037

SE 033 689

TITLE Natural Behavior in Humans and Animals, Unit One, Teacher Handbook. An Instructional Unit Produced by the Human Behavior Curriculum Project.

INSTITUTION American Psychological Association, Washington, D.C.

SPONS AGENCY National Science Foundation, Washington, D.C.

PUB DATE [79]

GRANT NSF-GW-7905; NSF-SED73-06337

NOTE 74p.; Contains broken type.

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS \*Behavioral Sciences; \*Behavior Patterns; \*Instructional Materials; Psychology; Science Course Improvement Projects; \*Science Curriculum; Science Education; Science Instruction; Secondary Education; \*Secondary School Science; Units of Study

## ABSTRACT

This guide is one part of eight instructional units developed by the Human Behavior Curriculum Project. These units provide a systematic study of behavior which can increase understanding of everyday life. They can be used to supplement other courses or as a separate course of study. There are three themes common to the units: (1) Human behavior can be observed, but it is necessary to teach strategies for careful objective observation of behavior; (2) There is enough regularity in human thought and behavior so that it is possible to arrive at general statements about patterns and causes of psychological events; and (3) In addition to our similarities, it is essential to preserve the sense of human individuality. The units were prepared by teams of high school teachers, students, and specialists in the field of human behavior. All materials were designed to involve the student actively in the learning experience. The teacher's handbook contains supplemental resources, including a bibliography and suggested films, nine lessons, and handcuts for class activities. (Author)

\*\*\*\*\*  
\* Reproductions supplied by EDRS are the best that can be made \*  
\* from the original document. \*  
\*\*\*\*\*

56

TEACHER HANDBOOK

PES 73-06337  
(GW 7905)

NATURAL BEHAVIOR IN HUMANS AND ANIMALS

U.S. DEPARTMENT OF HEALTH  
EDUCATION & WELFARE  
NATIONAL INSTITUTE OF  
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED  
EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING  
IT. POINTS OF VIEW OR OPINIONS STATED  
DO NOT NECESSARILY REPRESENT  
THE NATIONAL INSTITUTE OF  
EDUCATION.

PERMISSION TO REPRODUCE THIS  
MATERIAL HAS BEEN GRANTED BY

Patricia Babb  
of the NSF

TO THE EDUCATIONAL RESOURCES  
INFORMATION CENTER

AN INSTRUCTIONAL UNIT PRODUCED BY THE HUMAN BEHAVIOR CURRICULUM PROJECT

A PROJECT OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

SUPPORTED BY THE

NATIONAL SCIENCE FOUNDATION

J. K. Bare, Project Director

## TEACHER HANDBOOK

### UNIT I. NATURAL BEHAVIOR IN HUMANS AND ANIMALS

#### CONTENTS

Introduction	1
Organization of the Teacher's Handbook	2
Suggested Bibliography	4a
Suggested Films	5
Supplementary Materials (Lessons 1-9)	6
Handouts	44
Appendix	65

The Human Behavior Curriculum Project was made possible by a grant from the National Science Foundation to the American Psychological Association. It was undertaken on the premise that the systematic study of behavior can increase our understanding of the lives we lead. Eight units were developed that cover areas of interest and importance within the broad discipline of psychology. The units may be used in conjunction with other courses or may be joined together to form a course of nearly any length from three weeks to a year.,

There are three general themes that are common to the units.

1. Human behavior can be systematically observed.

People, as observers, are frequently less systematic in their everyday observations than they might be. One

reason why systematic observations may not be made is that we may be convinced that one thing causes another when, in fact, it does not. Another reason that systematic observations are not made is that the necessary conditions for such observations can not always be achieved. One goal of each module is to teach strategies for more careful, more objective observation of behavior.

2. There is enough regularity in human thought and behavior that it is possible to arrive at general statements about patterns and the causes of psychological events.

3. In addition to our similarities, psychology is concerned with our uniqueness. Individual variability is a product of inherited characteristics and life experiences. The modules strive to preserve the sense of human individuality as an essential psychological concept.

The topics for the units were chosen by the Steering Committee, a group of distinguished behavioral scientists, on the grounds that the topics represented the contemporary study of human behavior, that they would be of interest to the student, and that they were important to the understanding that is envisioned.

Each unit has been prepared by a different team consisting of two high school teachers, a varying number of high school students, and a specialist in the science of human behavior. Assistance was provided by the project office, by the Steering Committee, and by members of the Advisory Committee, the latter a group of educators familiar with the contemporary world of students and education.

All of the materials are designed to involve the students actively in their education. The focus is thus on the student learning process rather than on the discipline. Such an approach would appear to be most compatible with the study of human behavior, for learning is one of its central topics.

Natural Behaviors in Humans and Animals was developed by a team who initiated a proposal to the Human Behavior Curriculum Project. The team included a team leader, Ross Legrand, two high school teachers, Sally Legrand and Ronald Nuebel, two students, Cindy Marshall and Natalie Ojala, and an illustrator, Barbara W. Smith. The initial material was received by the module development team and revised by the project staff. The unit was tested in a small number of high school classrooms and further revised. After the second revision, the unit was tested in high schools across the country including, New York, Connecticut, Virginia, Florida, Michigan, Minnesota, and California. Dr. James Eckenrod, Zoda Koblas, Steve Sichel and William Lee were the regional coordinators for these trials. Extensive evaluations were performed by the teachers and students who used the units. Parents of secondary school students also provided evaluation. They were: Mrs. Ellen Munson, Mrs. Jane K. Paine, and Mrs. Edythe York. The project staff used the information gathered in the trials for extensive revisions. During the development of the unit Dr. Donald Hebb and Ernest R. Hilgard of the Steering Committee also gave suggestions about the content of the unit.

## INTRODUCTION

Interest in comparative psychology has greatly increased in the last decade. A number of popular books which have compared human and animal behavior, have stimulated this interest. The emphasis which many of these books have placed upon the importance of animal behavior and evolution in the understanding of human behavior has aroused much controversy in scientific community. The science of sociobiology according to E. O. Wilson, a major proponent of the theory, is a theory that seeks "to develop general laws of the evolution and biology of social behavior" and then to extend the application of those laws to the study of human beings. This unit is intended to provoke students to consider how human and animal behaviors are shaped. The behaviors of each species are quite interesting and it may be possible through careful research to discover that the same principal applies to a wide variety of species. However it must be emphasized that comparative psychology does demand a great deal of observation and recording of everyday occurrences before one can even begin to formulate principles of behavior. One may develop hypotheses regarding natural behaviors which documented experimental study may test out.

This unit will attempt to introduce students to some of the results of a selection of naturalistic studies in this rapidly expanding discipline. Many of these studies required years of naturalistic observation before even minor conclusions were reached. Most of the studies mentioned relate to animal behaviors, for until very recently the study of ordinary people in real-life settings has been a neglected field. It is hoped that this unit will stimulate students to examine more closely the behavior of humans and animals around them.

A goal of this unit is to provide students with an opportunity to investigate actively and compare natural behaviors in humans and animals. The natural behaviors included in this reader are facial expressions, their cross-cultural variations and similarities and their origins, territoriality, dominance hierarchy, rituals, bonds, and aggressive displays. In the process of their investigations the students will be asked to consider both the function of natural behaviors and how such behaviors represent an adaptation to the environment. It must be noted that as cultures change frequently, so do environments and new adaptive behavior may be necessary.

It is hoped that this unit which is comprised of a combination of naturalistic research, theory, case material and classroom demonstrations, will stimulate the students to speculate about human and animal natures even as it suggests the limits of our knowledge.

#### ORGANIZATION OF THE TEACHER'S HANDBOOK

The teacher's handbook contains the following materials:

1. Supplemental Resources including a bibliography and suggested films.
2. Nine Lessons
3. Handouts for class activities

Each lesson includes a statement of the objective of that lesson, background information, suggested teaching procedures, and the relevant student reading.

In preparation for the lessons, you will need to duplicate handouts for your students for the following classes:

Handout	Lesson
1	1
2	1
3	2
4	2
5	2



6	2
7	2
8	2
9	5
10	6

In advance of Lesson 1 you will need to prepare with student assistants for the demonstration. Instructions are included in lesson 1. Before Lesson 3 you will need to purchase and maintain a male Siamese Fighting Fish (*Betta splendens*). The fish are easy to care for and work with. The fish should be in its tank the day before you plan to start Lesson 3. Several students observe the fish on that day for five minutes.

We recommend that you read through the student reader before the course in order to familiarize yourself with the materials that the students will have to work with. In each lesson, the relevant pages of the student reader have been included in the teacher's handbook for easy reference. The following table lists the topics, the student reading, and the class activity for each lesson. You may want to spend more time than one class period on some lessons.

<u>Lesson</u>	<u>Topic</u>	<u>Student Reading</u>	<u>Activity</u>
1	Observing Natural Behaviors		The students examine the behavior and emotions of humans when they violate the personal space of others and discuss their findings.
2	Faces	1-9	The students use drawing of facial expressions to study the possibility that the recognition and production of facial expressions are natural behaviors.
3	Animal Territories	10-14	Students observe and record the territorial display of a Siamese Fighting Fish and speculate about territoriality in humans.

<u>Lesson</u>	<u>Topic</u>	<u>Student Reading</u>	<u>Activity</u>
4	Human Territories	15-19	The students discuss human interaction in situations in which territories may be involved, and consider some of the variables involved.
5	Planning Observations of Natural Behaviors	20-23	The students plan observations of natural behaviors and discuss the ethical problems in such observations.
6	Bonds That Hold Us Together	None	The students observe role-playing in situations designed to elicit bonding behaviors and discuss their observations.
7	The Functions of Bonds	24-34	The students read a brief life history of Charles Manson, and move from a discussion of it to a consideration of the role of bonds in society.
8	Cultural Change	35-40	Students consider the changes in culture that may lie in the future and discuss the versions of life in the future and its consequences.
9	Reports of Observations, Conclusions	41-43	The students give and listen to reports of natural behaviors.

## SUGGESTED BIBLIOGRAPHY

- Andrew, R. J. The origins of facial expressions. Scientific American. 1965, 213, 4, 88: 94.
- Ardrey, R. The territorial imperative. New York: Dell, 1966.
- Beach, F. A. The descent of instinct. Psychological Review, 1955, 62, 401-410.
- Brandt, R. M. Studying behavior in natural settings. New York: Holt, Rinehart and Winston, 1972.
- Breland, K., & Breland, M. The misbehavior of organisms. American Psychologist, 1961, 16, 681-684.
- Calhoun, J. B. Population density and social pathology. Scientific American. 1962, 206, 2, 139: 148.
- Curtin, R. and Dohinow, P. Primate social behavior in a changing world. American Scientist, 1978, 66, 4, 468-475.
- Dennis, W. Infant reaction to restraint: an evaluation of Watson's theory. Transactions of the New York Academy of Sciences, 1940, 2, 202-218.
- Eaton, G. G. The social order of Japanese macques. Scientific American, 1976, 235, 4, 96: 106.
- Edney, J. J. Territoriality and Control: A field experiment. Journal of Personality and Social Psychology, 1975, 31, 1108-1115.
- Eibl-Eibesfeldt, I. The fighting behavior of animals. Scientific American, 1961, 205, 6, 112: 118.
- Eibl-Eibesfeldt, I. Love and hate. New York: Holt, Rinehart, and Winston, 1972. (Available in paperback. New York: Schocken, 1974).
- Ekman, P. Universal and cultural differences in facial expressions of emotions. In J. K. Cole (Ed.), Nebraska Symposium on Motivation (Vol. 19). Lincoln: University of Nebraska Press, 1972.

Exline, R. Visual interaction: The glances of power and preference.

In J. K. Cole (Ed.), Nebraska Symposium on Motivation (Vol. 19).

Lincoln: University of Nebraska Press, 1972.

Fox, M. W. Behaviour of wolves, dogs, and related canines. New York, Harper & Row, 1971.

Freedman, D. G., King, J. A., & Elliott, O. Critical period in the social development of dogs. Science, 1961, 133, 1016-1017.

Freedman, J. L. Crowding and behavior. San Francisco: W. H. Freeman and Company, 1975.

Goldfarb, W. Psychological privation in infancy and subsequent adjustment. American Journal of Orthopsychiatry, 1945, 15, 247-255.

Harlow, H. F. Learning to love. San Francisco: Albion, 1971.

Harlow, H. F. and Harlow, M. K. Social deprivation in monkeys. Scientific American, 1962, 207, 5, 136: 146

Hess, E. H. Imprinting. Science, 1959, 130, 133-141.

Ittelson, W. H., Proshansky, H. M., Rivlin, L. G. and Winkel, G. H. An introduction to environmental psychology. New York: Holt, Rinehart and Winston, 1974.

Kawai, M. Newly acquired pre-cultural behavior of the natural troop of Japanese monkeys on Koshima island. Primates, 1965, 6, 1-30.

Klein, D. C., Fencil-Morse, E., & Seligman, M. E. P. Learned helplessness, depression, and the attribution of failure. Journal of Personality and Social Psychology, 1976, 33, 508-516.

Krebs, D. Cited by Burton Jones, N. G. Non-verbal communication in children. In R. A. Hinde (Ed.), Non-verbal communication. Cambridge: Cambridge University Press, 1972.

Lorenz, K. On aggression. New York: Bantam, 1966.

- Lovaas, O. I., Schreibman, L., Koegel, R., & Rehm, R. Selective responding by autistic children to multiple sensory input. Journal of Abnormal Psychology, 1971, 77, 211-222.
- National Geographic Society. The marvels of animal behavior. Washington, D. C.: Author, 1972.
- Pratt, C. L., & Sackett, G. P. Selection of social partners as a function of peer contact during rearing. Science, 1967, 155, 1133-1135.
- Proshansky, H. M., Ittelson, W. H., and Rivlin, L. G. Eds. Environmental psychology: People and their physical settings, 2nd Edition - New York: Holt, Rinehart and Winston, 1976.
- Reiss, B. F. The isolation of factors of learning and native behaviors in field and laboratory studies. Annals of the New York Academy of Sciences, 1950, 51, 1093-1102.
- Seligman, M. E. P. Helplessness. San Francisco: Freeman, 1975.
- Suomi, S. J., & Harlow, H. F. Social rehabilitation of isolate-reared monkeys. Developmental Psychology, 1972, 6, 487-497.
- Washburn, S. L. Human behavior and the behavior of other animals. American Psychologist, 1978, 33, 5, 405: 418.
- Washburn, S. L. and DeVore, I. The social life of baboons. Scientific American, 1961, 204, 6, 62: 71.
- Wilson, E. O. Sociobiology: The new synthesis. Cambridge, Mass.: Belknap Press of Harvard University Press, 1975.
- van Lawick-Goodall, J. In the shadow of man. New York: Dell, 1974.

## SUGGESTED FILMS

Animal War, Animal Peace. (McGraw-Hill), 1968, 30 minutes, color. This movie shows territorial behaviors in a variety of animal species and explores the implications for human aggression.

Miss Goodall and the Baboons of Gombe. (Metromedia Films, Inc.), 1974, 52 minutes, color. Jane Goodall presents the behavior of a wild baboon troop, including care of the young and the role of dominance hierarchies in the organization of the troop.

Miss Goodall and the Wild Chimpanzees. (Encyclopedia Britannica Educational Corp.), 1968, 28 minutes, color. This is the story of how Jane Goodall lived alone in the jungle, was gradually accepted by the chimpanzees, and produced a unique account of the behavior of chimpanzees in the wild.

Miss Goodall and the Wild Dogs of Africa. (Metromedia Films, Inc.), 1974, 52 minutes, color. Jane Goodall follows a pack of wild dogs and records their hunting behavior, their social organization, and the care of their young.

Monkeys, Apes, and Man, Parts I & II. (National Geographic), 1971, 53 minutes, color. This movie offers a survey of research on primate behavior around the world. It covers topics such as early maternal and peer relationships, social organization, and tool using in primates. Comparisons are drawn to human behaviors.

Rock-A-Bye-Baby. (Time-Life), 1971, 30 minutes, color. This film investigates the role of certain kinds of stimulation in the normal development of young creatures. Among the subjects are mother-deprived monkeys, institutionalized children, and premature children.

Wolves and Wolfmen, Parts I & II. (Films, Inc.), 1969, 54 minutes, color.

The behaviors of wolf packs in three American wolf preserves are shown, including hunting by the pack and social behaviors such as dominance.

## LESSON 1: OBSERVING NATURAL BEHAVIORS

### OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Next Assignment</u>
The students examine the behavior and emotions of humans when they violate the personal space of others and discuss their findings.	2 class periods.	"Introduction" and "Natural Behaviors," (pp. 1-9 ) Student Booklet

### OBJECTIVES

Given observations of response to violation of the territory or human space of others, the students will:

1. Specify the behaviors shown by the intruder;
2. Make inferences about the emotions experienced by the intruder and give a supporting rationale for these inferences;
3. Arrive at definitions of natural, learned, territory, personal space, inference, and reliability;
4. Speculate about the presence of natural behaviors in humans.

### MATERIALS

Handout #1 for observers (two copies required), and handout #2 (one for each student, to be placed on the students' desks before they enter the class).

### BACKGROUND

Given the comparative thrust of the unit, the first lesson confronts students with human behaviors that appear to have relatively strong innate elements, and can be linked to animal behaviors. The observation was chosen because the behaviors involved are dramatic and can be readily observed in

school settings.

The observation scheme was taken from a study of Efran and Cheyne (1974). They were investigating two hypotheses about human behavior: (1) humans behave as if certain spaces are territories, analogous to animal territories; and (2) the emotions of the person violating the territory (or personal space) of another will be reflected in movements of the face and head. It was assumed that the reactions of the subjects would be those of both submission and discomfort.

The territory in this study was the space between two people who were conversing. College students were subjects, and did not know that their behaviors were being filmed as they passed between the two who were talking. There were two comparison conditions; subjects passed by but not between conversing people, or they passed between two objects.

The strongest sign of submission was the slight bowing of subjects' heads as they passed through the social barrier created by the talking people. The next strongest sign was the lowering of their gaze, the next a partial closure of their eyes, and the weakest movements of the mouth. After passing through the barrier, the students filled out self-rating scales about their emotions. These ratings suggested that the violation of others' space produced feelings of discomfort.

#### SUGGESTED TEACHING PROCEDURE

Step One. Arrange for two students assistants to be present several minutes before the other students usually begin entering the classroom for your class. The assistants are instructed to seat themselves in the classroom so that they can clearly and carefully observe each entering student, but to one side of the entering students' line of sight, so that the students will be reacting to the barrier in the doorway and not to the observers beyond it. The observers are provided with handout #1 on which



to record observations of head, eye, and mouth movements and any other behaviors that occur. The observers should not interact in any way with the students until all observations are concluded and the class discussion begins.

Go over the handout #1 with the two observers to be sure they understand their task. Discussion of what should be counted as a bowing of the head, a lowering of the gaze, a partial closing of the eyes, and mouth movements, can increase the reliability of the recordings. However, once formal observations begin, the two observers must not communicate with each other.

You must also arrange to have two other assistants positioned one on each side of the doorway. It is their conversation that will create the territory or personal space that entering students must cross. It is suggested that at least one of these assistants be an adult. The power of territories to elicit submissive behaviors is related to the status of those who hold the territory relative to those who cross it.

Following the procedure used by Efran and Cheyne, the assistants in the doorway should be no more than 48 inches apart, so that students have to pass between them one at a time. The assistants should talk in normal tones and keep their gestures to a minimum; their conversation should appear serious but not angry. They may find it helpful to plan their topics of conversation in advance. As a student approaches the barrier, the adult assistant should glance at the student briefly and then return to the conversation. If the student hesitates to pass between the assistants, the adult assistant should motion for the student to pass and then return immediately to the conversation.

In the classroom, the students will find reaction sheets on their desks. The sheets will direct the students to record observations of their

own behavior and emotions while passing between the assistants in the doorway and should be filled out immediately. When the students have answered the questions, they can make observations of other entering students. They should not be permitted to interfere with the two recorders, the two assistants in the doorway, or the other entering students.

Step Two. Because the students have described their reactions to the arranged experience, they should have something to contribute to the discussion. The following questions suggest one sequence for the discussion and its rationale. You may wish to record the responses in separate columns on the board.

1. As you approached the classroom you saw two people talking in the doorway. What did you feel when you passed between them?

This column may be labelled "Emotions"

2. What did you do as you passed between the assistants? What behaviors did you show?

This column may be labeled "Behaviors"

3. The observers can then be called upon to summarize observations. Students who arrived early in the demonstration may wish to add to this list.

At this point, the teacher may wish to stress that observers can observe behaviors but can only infer the presence of emotions by noting certain characteristic behaviors.

4. Why did the students feel and behave as they did?

5. Would it make any difference if the people in the doorway were two adults? Or two children? Or if they were arguing or laughing? What if a teacher were criticizing a student?

At this point, the teacher may want to emphasize the effects that

status or intimacy of interaction might have on the experience.

6. Why did most of you react to people in the doorway? Were you taught to react this way? Were these "natural" reactions? What does "natural" mean?

7. Can you think of behaviors which are natural for humans?

Step Three. The teacher may also want to discuss why there were two observers. This discussion may involve the issues of reliability, and working with data (perhaps quantifying observations) for more efficient and accurate analysis. Some attention may be paid to the subject of methodology and how appropriate it may be to manipulate an experimental situation to observe natural behavior.

#### NEXT ASSIGNMENT

Introduction and Natural Behaviors pp. 1-9 , Student Booklet.

OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Next Assignment</u>
The students use drawings of facial expressions to study the possibility that the recognition and production of facial expressions are natural behaviors.	1-2 class periods	"The Cross-Cultural Study of Facial Expressions," pp. 10 to 14, Student Booklet.

OBJECTIVES

Given the examination of a set of drawings of facial expressions, the students will:

1. Identify the expressions.
2. State the components of each expression (i.e., anger: lowered brows, eyes narrowed, lips tight with corners down):
3. Detect the components of primary facial expressions in expressions that are blends of primary expressions.
4. Describe situations in which the recognition and production of a facial expression can serve a purpose; and
5. State some reasons for the presence of natural and learned elements in facial expressions.

MATERIALS

Six pictures of facial expressions (handouts #3 through #8), a set for you, and a set for each of G groups, where G=number in class/four.

## BACKGROUND

Lesson 2 examines the interpretation of human facial expressions as adaptive behaviors. Facial expressions can be signals that convey important information about our emotions to others. The lesson presents six primary faces: happiness, sadness, fear, anger, surprise, and disgust (Ekman, 1972). They have been prepared in such a way that they can be cut in half and the tops and bottoms combined into new expressions that are blends of the original six. Students can discover how clear these facial signals are to them and can then explore some of the questions that researchers ask about the roles of innate and learned factors in facial expressions. For example, even when we try to hide our emotions, does a part of the face, if only for an instant, reveal the suppressed emotion?

It may be that our facial expressions, in part, are reflexive movements. They may occur automatically in response to certain events. We may then respond to the feedback from our own faces, interpreting them and perhaps modifying them. If this notion is correct, it would be one basis for assuming that we may never be able to suppress our facial expressions completely in response to certain events.

## SUGGESTED TEACHING PROCEDURE

You can begin by showing the students the six facial expressions of emotions, one at a time. Before you do so, instruct the class that they are to write down the name of the emotion portrayed in each picture. Ask the students to examine particular parts of each picture for clues to the emotion. These parts can be written on the board for later reference.

- . The forehead: Are there lines that tell about the movements of muscles underneath?
- . The eyebrows: Are they raised or lowered or drawn together above the nose?
- . The eyes: Are they wide open or partially closed?
- . The nose: Is it smooth or wrinkled?
- . The mouth: Is it open or closed? Are the corners drawn up or down? Are there lines created on the cheeks by mouth movements?

After the six expressions have been shown and students have had time to write their labels, ask them to report them aloud. The responses can be recorded in six columns on the board, one for each picture. As students give their labels, ask them what aspects of the face were clues to the emotion? When disagreements arise, the teacher may stress the idea that certain facial features assume similar shapes for different emotions.

As the next step, divide the class into groups of four or five different students. Ask the students to cut the pictures in half to rearrange the halves to make new combinations. Note that the top of each picture is designated by a letter and the bottom by a number.

The first group exercise tests the students' abilities to recognize facial expressions. Give the students a letter and number combination, such as D6, ask them to put this combination together and decide, on a label or caption. Urge that the students consider the contribution of each part of the face (forehead, eyebrows, eyes, nose, and mouth) to the total expression.

The students can try to label D6, C2, C6, B4, and A6. Do not remind them of the labels for the six primary faces from which these blends are constructed; for example, that D6 is a combination of sadness and surprise faces. The students should respond to the visual impact of the combination

facial expression and not to the words sadness and surprise.

After all the groups have settled on their labels or captions, they can report their results to the whole class. Where there are disagreements, the students should justify their answers by referring as much as possible to the specific parts of the face. They will discover that our language does not contain precise terms for certain combinations of emotions, and that captions such as, "You mean I won the grand prize?" for A6, may serve better than a single word, such as "delight."

The students can also try to label combinations that do not go together well. For example, A3 (happiness and disgust) is an unlikely combination. Students can try to arrange their own faces into A3. A2 (happy--angry) is another unlikely combination. A4 combines happiness and sadness. Can the students think of a situation in which that combination might occur? The students can also compare different arrangements of the same emotions. For example, D6 and F4 are both expression of sadness and surprise. Is one easier to interpret?

You can help students understand that the face is an instrument that reflects not only basic emotions but also complex and compound emotions. Furthermore, students should consider, in some detail, the facial behaviors they recognize and produce. They should finish the exercise impressed by their ability to decipher the messages conveyed by the face, an ability they use every day but rarely analyze.

As a last step you can ask the following questions, designed to cause students to think about the reasons for their facility for interpreting facial expressions. They should be led to consider the roles of innate and learned factors in facial expressions.

1. Do you think a smile means the same thing to people everywhere in the world? What is the universal meaning of a smile?

2. Do you think all people have a tendency to smile in similar situations? Is smiling a natural response to certain situations?

3. Why do our emotions show on our faces? Why do we signal our emotions to each other? Could it be useful to us?

4. Do we sometimes hide our true emotions? When and why might we do this?

5. Can we tell when someone else is hiding his true emotions? When would this knowledge be helpful?

#### NEXT ASSIGNMENT

"The Cross Cultural Study of Facial Expressions" pp. 10-14,  
Student Reader.

Note: Your Siamese fighting fish, which must have matured sufficiently to be a breeder, should be in its tank on the day you end this lesson, for several students are to observe it for five minutes as described in the next lesson in the section "Suggested Teaching Procedure."



## LESSON 3: ANIMAL TERRITORIES

### OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Next Assignment</u>
Students observe and record the territorial display of a Siamese fighting fish and speculate about territoriality in humans.	1 class period	"The Origins of Facial Expressions" pp.15-19 Student Booklet

### OBJECTIVES

Given a classroom demonstration of the territorial display of the Siamese fighting fish, Betta splendens, the students will:

1. Describe the territorial display and state possible reasons for it.
2. Define anthropomorphism and state why it can cause problems for understanding animal behavior.
3. Specify why the tank was divided into sections, why the length of the display was timed, and why the behavior was recorded with and without a mirror present.
4. State the relationship between regularity of observed behavior and predictions and principles of behavior; and
5. Speculate about analogies between animals territoriality and human behaviors.

### MATERIALS

A male Betta splendens can be cared for easily and inexpensively, and because of its popularity, it can be obtained at most pet shops that sell fish.

This fish does not require elaborate equipment; although filters, bubblers, thermostats, and other equipment can make maintenance easier, they are not necessary. The simplest procedure will be described and you may improve on it as you desire.

Betta splendens can be kept in a tank that holds as little as two gallons of water. The tank should be rectangular. If the water is not filtered and bubbled, then about half the water should be changed every few days. Extra water can be set aside in jugs or bottles. A tube can be used to siphon away the old water, and it will create a vacuum effect so that debris can be removed from the bottom of the tank. Fish stores sell a chemical that neutralizes the chlorine found in most drinking water.

This fish is most active in warm water, about 26° C (80°F). This may require keeping the tank near a heat source, such as a heating vent or a lamp. The fish need be fed only a few grains of tropical fish food each day. This routine should keep it healthy for weeks.

You must also obtain a mirror, 5 x 7 inches or larger, that can be pressed flush against one end of the tank. FOR THIS DEMONSTRATION, YOU WILL NEED FISH THAT HAVE MATURED SUFFICIENTLY TO BE BREEDERS.

#### BACKGROUND

Betta splendens is widely known as the Siamese fighting fish, and the colorful appearance of the male has made it popular with aquarium owners. The readiness of the male to show an aggressive display to its mirror image has made it popular with comparative psychologists. It is easy to keep and its display behavior can be studied as a form of aggression without risk of injury to the fish.

The aggressive display of Betta splendens is an excellent classroom demonstration of territorial threat behavior. At the sight of its image, the male fans out its fins and extends its gills. It approaches the mirror and continues these behaviors, swimming back and forth. It arches its body and turns to present an expanded, broadside view.

The Betta splendens can learn to swim through a hoop for the opportunity to display to its image. In learning terms, the display is reinforcing. As is true with many creatures, it patrols the boundaries of its territory and its display protects that territory. The display can also be classically conditioned, a possibility students might wish to explore.

Betta splendens was chosen as the subject of this lesson because of its convenience, its vivid display, and the high probability that it will perform on schedule for a classroom demonstration. Most other readily available animals do not have these advantages. Some, like the goldfish, are unaggressive. Others, such as male mice or hamsters, fight viciously when paired with strangers.

The lesson can lead students from the analysis of an aggressive display in Betta splendens to a consideration of possible parallels in human behavior.

#### SUGGESTED TEACHING PROCEDURE

Step One. The following classroom demonstration, adapted from a study by Baenninger (1966), shows how a simple procedure can be valuable in objective observation.

The length of the fish tank should be divided into three equal sections, with pieces of tape indicating divisions. On the day before the demonstration, several students should spend five minutes observing the movements

of the fish. Using a watch with a second hand, the observers record the total number of seconds the fish spends in each of the three sections of the tank. This provides a measure of the fish's preference before the mirror is introduced.

When it is time for the classroom demonstration, the mirror is placed against the end of the tank least preferred by the fish during the earlier observation period, and is left in place for five minutes. Again, the number of seconds the fish spends in each section of the tank is recorded. Comparison of the two sets of measurements shows that a change in preference has occurred, with the fish now spending more time near the mirror. The movements of the fish are not random; they reflect an aggressive motivation that can drive intruders from its territory.

During the demonstration, students should take careful note of the display behaviors when these occur. After five minutes, the mirror should be removed. (The display behaviors will become exhausted if the mirror is left in place for longer periods of time. Let the fish rest before trying to elicit the display again.)

Step Two. Indicate that observations of the fish were made the day before without the mirror. The number of seconds the fish spent in each of the three divisions of the tank on the two days of observations can be compared. Point out that the mirror was placed on the least favored end of the tank.

1. What happened? What did the fish do when we put the mirror against the tank?

2. What will happen if we put the mirror against the tank again?  
What if we put a piece of cardboard there, instead?

3. Why do we predict that the fish will display again to the mirror?
4. Why did we record the number of seconds the fish spent in different portions of the tank? Why do we want objective measures of behavior?
5. Why does the fish display?
6. Why does the fish change its behavior before attacking? Why does it stick out its fins and gills?
7. Why does the fish signal to others? Are there similar behaviors in other animals and in humans?

#### NEXT ASSIGNMENT

The Origins of Facial Expression pp. 15-19 , Student Booklet.

## LESSON 4: HUMAN TERRITORIES

## OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Next Assignment</u>
The students discuss human interaction in situations in which territories may be involved, and examine some of the variables involved.	1 class period.	"Territories, Dominance and Rituals", pp.20-23, Student Booklet.

## OBJECTIVES

Given their observations of human behavior from the first lesson and that of Betta splendens in lesson 3, the students, after a discussion, will be able to:

1. Define dominance, submission, hierarchies, and status.
2. Describe in a territorial encounter the dominant and submissive behaviors of humans (e.g., facial expressions, postures, and gestures of anger or appeasement).
3. Predict the way in which territorial encounters would change as a result of changes in the sex, age, or social status of the participants.
4. Describe both behavioral and nonbehavioral signs of high and low social status among humans (the latter to include displays of wealth, importance, and power); and
5. State possible parallels between animal and human behaviors of territoriality, and dominance and submission.

## MATERIALS

Maps of the student cafeteria, study hall, student lounge, and any other places where the students regularly congregate.

## BACKGROUND

The lesson examines behaviors in humans that are similar to both territoriality and dominance in animals.

The value of the concept of territoriality in animals is controversial; the application of this concept to human behavior is speculative. Yet it does offer a comparative model for consideration, and suggests certain observations that can be readily made.

We do seem to construct boundaries in space, either physical or psychological, and we do seem to designate them as ours, to be defended much as we (and animals) defend our possessions. The two people in lesson 1 created a physical space, and those who passed through it may have perceived the space as belonging to those conversing and have felt that they were invading it. Some consider a touch more intimate than a word or a smile. Some apparently see their personal territory as extending an arm's length.

Our psychological space may include our values, our integrity, and our honor, and we may be ready to defend them aggressively. We have a sense of fairness and it appears to be part of the normal sequence of moral development in the child. Indeed, a sense of fairness is a part of all societies. A sense of what is right and just is also strongly defended. Could fairness and justice be, in part, natural behaviors?

The presence of dominance hierarchies in humans is not as controversial as territoriality, for status differences among humans are universal. Those dominance hierarchies play an important role in the analysis of

territorial situations and must always be considered. A person's reaction to a violation of physical or psychological space depends, in part, upon the status of the intruder. By the end of lesson 4, students will have discussed both territoriality and status and will be able to combine these two variables in fairly complex predictions of behavior.

#### SUGGESTED TEACHING PROCEDURE

Make a sketch on the board of the school cafeteria, study hall, or student lounge. The map should ultimately show a setting in which the same students occupy the same places every day or whenever the opportunity arises.

You can lead students in a discussion along the lines of the questions below.

1. Show me where certain people sit every day. Where are their regular places?

Most people fall into habits of sitting in the same places every day. Students will be able to place individuals and groups in certain locations with fair accuracy and agreement. They can do this for a variety of settings both inside and outside the school. The classroom itself can be used as an example. Ask the students to note on what basis the separation of the groups appears to occur.

2. What if A (an outsider) arrives first and sits where B usually does? How will B react when B arrives on the scene?

The description of B's behavior must be as precise and complete as possible. The students should describe B's facial expressions, body postures, body movements, and verbal behaviors. They might try role-playing the situation in order to create a more vivid picture of B's actions.



Then the identities of A and B can be varied by age, social status, and sex in order to show students that B's behavior will vary according to the different characteristics of A. For example, B's response to a low-status intruder is likely to be different from the reaction to a person of the same or higher status. In the former case, students may say that B adopts a certain posture, frowns, and asserts a right to the seat. In the latter case, B may give way to A, perhaps with a submissive grin.

To elicit even more suggestions of territorial behavior, you can ask:

3. What if B arrives first and then A comes along and either sits right next to B or tries to get B to move? Here the right of prior occupancy may be perceived by students as giving B even more right to territorial aggression. The variables of age, social status, and sex can be considered again.

4. Why does B react in this way? How does A act and react?

5. Can you think of similar situations. What about the situation in lesson 1 when two people were talking and the class had to pass between them? What are the similarities?

6. Social status is an important factor in this situation. How do we recognize status? If we didn't know the people, could we recognize who was superior and who was inferior in status? How?

7. Can you relate the behavior of the Betta splendens to this discussion?

8. Can you draw parallel between these human and animal behaviors?

#### NEXT ASSIGNMENT

Territories, Dominance Hierarchies, and Rituals. pp.20-23, Student Booklet.

## LESSON 5: PLANNING OBSERVATIONS OF NATURAL BEHAVIORS

### OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Next Assignment</u>
The students plan observations of natural behaviors and discuss the ethical problems in such observations.	1 class period.	Students complete their observations of natural behaviors.

### OBJECTIVES

Given guidance by a class discussion, the students will

1. Plan a set of careful observations of human and animal behaviors.
2. Make and examine preliminary observations to discover any problems in their plans.
3. Consider the ethical issues involved in such observations; and
4. Make the observations and write their descriptions for presentation at the last meeting of the class.

### BACKGROUND

This lesson is designed to give students practice in the careful observation and description of human and animal behavior. The fact that there are patterns of behavior that can be found through careful observation is an exciting discovery and one that can strengthen the students' interest in the study of behavior.

There are ethical principles in the observation of other humans that must be considered. Although the ethical issues are complex, and should always be of concern. In this unit, fortunately, only public unmanipulated behaviors are observed, and the guidelines can readily be met. In this lesson, the students generate ideas for observations and then consider the ethical principles involved.

Because the topic of this unit is natural behaviors, one consideration is that the situation to be observed should be an unmanipulated, natural one. The focus of this lesson is on descriptions of short, reliable patterns of behavior, in which the pattern includes the situation, the behavior itself, and any consequences. The descriptions should be full, complete and should avoid inferences.

There are fewer ethical considerations arising from this unit than might otherwise be the case because all observations are unmanipulated, and the human behavior observed is public.

A copy of the most recent draft of the Guidelines for the Use of Human Participants in Research or Demonstrations Conducted by High School Students prepared by the Committee on Psychology in the Secondary Schools of the American Psychological Association is included in the Handouts (#10). In addition, that Handout includes Guidelines for the Use of Animals in School Science Behavior Projects by the Committee on Precautions and Standards in Animal Experimentation of APA. (The latter is reprinted from the American Psychologist, 1972, 27, 337.) You may wish to distribute them to the students.

As far as the observations of humans in this unit are concerned, guidelines 3, 4, 5, and 6 are important. Agreement to participate is not

necessary (guideline 3) because only public behavior is being observed. Nevertheless, the observers should not infringe on the rights of others. The right of refusal to participate<sup>may</sup> present something of a problem (guideline 4) ; no undesirable consequences are anticipated (guideline 5), and Guideline 6, the preservation of anonymity, can be met by the students simply not revealing the identity of those they observe.

The suggested observations on animals are also unmanipulated and ethical considerations are minimal, except for insuring the proper environs and food for the fish. A copy of the most recent draft of the Ethical Guidelines for High School Psychology Teachers is included in the Appendix.

#### SUGGESTED TEACHING PROCEDURES

The lesson can begin with the teacher's introduction of the naturalistic observation project which the students will undertake. The class should be divided into six groups. Three of these groups will observe animal behaviors, and three of these groups will observe human behaviors.

The students will be asked to study three types of behaviors which include: eating, playing, and grooming. For each behavior, one group will study animals performing the behavior and one group will study humans performing the behavior.

For the eating behaviors, a group of students might observe people eating in the school cafeteria, or if the group is small enough they might be able to observe customers eating in a fast food restaurant without disturbing anyone. The group observing animal behaviors might spread bread crumbs or popcorn in a park and then observe pigeons or squirrels feeding.

For the playing behaviors the students studying animal behaviors might observe kittens or puppies playing. The group studying human behaviors might observe children of either elementary school age or pre-school age, playing in a park or at a playground.

Grooming behaviors might be studied by observing a cat or a dog licking and cleaning itself. The group studying human behaviors might stake out the school lavatories and watch the boys and girls fixing their hair and generally checking and adjusting their appearances.

For all of these observations a good vantage point is necessary and the individuals observing must not interfere with the eating, playing, or grooming behaviors of the subjects. Descriptions of observations should be free of inferences.

You may wish to let students confer with each other in class. They must be able to present a plan of action before they leave class. They must know what subjects they will try to observe and they must prepare at least a sketch of the method of observation they will use.

When the students have chosen the behaviors to be observed, the ethical considerations should be raised. It is assumed that no students will make manipulations of animals or humans, and thus the ethical problems associated with those situations will not arise.

The teacher might emphasize that the closer they look, the more they will find. Where are the eyes looking? Is the body tense or relaxed? If more than one subject is observed at the same time, does one perform the behavior more than the others? What are the others doing? Does the subject perform the behavior the same way every time? How do other subjects perform the behavior? What comes before the behavior and what follows it?

The purpose of the project is best served if students very closely observe a small sequence rather than observe a complex sequence. Define the behaviors as precisely as possible to simplify the project and consider how to record the information as accurately and as efficiently as possible.

Try to impart to the students the attitude that the observation of behavior can lead to interesting discoveries, and that techniques of observing behavior are important: the better the methods, the better the results. They do, of course, have limited time, limited experience, and perhaps limited opportunities for observing behavior, and may encounter unlimited difficulties. The major purpose of this lesson is to maneuver students into a confrontation with behavior. Hopefully, they will discover that there is more to be learned about the behaviors around them than they had thought; they may discover that behavior, upon close observation, is more subtle and more complex than they expected; and that behavior raises questions the answers to which are worth pursuing.

#### NEXT ASSIGNMENT

Students are to make observations of human or animal behavior outside the class that will be reported in Lesson 9. To assist them in summarizing and organizing their observations for presentation to their classmates, you may wish to give students a copy of the questions found in Lesson 9.

## LESSON 6: BONDS THAT HOLD US TOGETHER

### OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Next Assignment</u>
The students observe role-playing in situations designed to elicit bonding behaviors and discuss their observations.	2 class periods.	"Bonds" pp. 24-31, Student Booklet. "The Case of Charles Manson," pp. 32-34, Student Reader.

### OBJECTIVES

Given the observation and discussion of role-playing in situations that are designed to elicit bonding behaviors, the students will:

1. Arrive at definitions of bonds and bonding.
2. Specify the behaviors that signify positive bonds between humans (e.g. facial expressions, eye contact, touches, body postures).
3. List opposing pairs of behaviors that signify opposing emotions (e.g. closed versus open hand, smile versus frown).
4. Differentiate between those elements of bonding behaviors that might be natural (touching as a sign of appeasement) and those that might be learned (shaking hands); and
5. Speculate about the possible reasons for natural elements in bonding behaviors in humans and animals.

## MATERIALS

Four straight back chairs, enough copies of Handout #10 so that each student can have one. The role descriptions appear in the Appendix.

## BACKGROUND

A variety of forces appear to push us apart, and the emphasis on human aggression in the media appears to have led to a wide-spread conclusion that humanity will destroy itself. This lesson on the other hand, is intended to have the students think about the forces that bond us together, and the behaviors that reflect those forces. Indeed, if frequency of occurrence is any reflection of the strength of an underlying motive, then the many, everyday signals of peaceful and affectionate intentions that we bestow on one another reflect forces at least as strong as those that produce our relatively infrequent explosions of aggression.

Psychologists have studied the ways by which we signal our positive feelings in conversation (cf., the review by Mehrabian, 1972). When two people sit facing one another and talking, they express positive feelings in a variety of ways: they orient their bodies toward each other, they sit close together, they smile and nod their heads, and show frequent facial and verbal behaviors and they look into each other's eyes. Their speech will also reflect their feelings, with the exchange of positive and reinforcing comments.

In this lesson the students are asked to enact and observe situations in which positive behaviors will appear. It is hoped that students will become aware of the signs of positive bonds and will speculate about the reasons for the existence of such bonds. (It is recognized that some students may not wish to act before their classmates. Gentle urging may be in order, for some theorists have postulated that the deliberate act of role-playing often elicits the emotional experiences associated with



the behaviors.)

#### SUGGESTED TEACHING PROCEDURE

As a first step describe to the students the task they are to perform. In groups of four, they read the Role Description Sheet in the appendix of their booklets, choose a scene, and write a dialog and stage directions for a two minute scene.

Students in each group must choose two people to read the script and two others to pantomime the motions. This unusual approach ensures that both the words and the body movements receive equal emphasis. They write the script as a group and decide as a group on a pantomime that will best express the emotions they wish to convey.

Perhaps a half an hour will be enough to prepare the scenes. Then the students must present the scenes to the entire class. Those who are to read the script must become familiar enough with it to be able to do some acting as well.

Place the chairs for the actors about 10 feet apart, but make it clear that the chairs may be moved closer together if they wish. (The effect of placing the chairs at different distances is something you and the students may wish to think about during the discussion.) The chairs for the mimes can be placed to one side, positioned in such a way that they can see the actors and be seen by the class. While a group is putting on its scene, the other students use their observation sheets to record what they believe are the important words and actions. Allow a few moments between scene presentations so that the observations can be completed.

The second step is to discuss the observations made by the students. If the students are not clear about the message conveyed by an action, you can ask them to pantomime that behavior and an opposite behavior (for example leaning forward while talking and leaning backward, perhaps with arms folded across the chest, or, a listener who watches and one who looks away without expression or movement). One way to think about our nonverbal communications is as opposing pairs of behaviors, such as bowing the head versus tilting the head back (as in arrogance), or showing an open hand versus a closed fist. You can ask students later for more examples of opposing pairs of behaviors.

1. What emotions were expressed in the first scene? What did the characters say and do that suggested an emotion to you? Be specific. Which words were important? Which movements of the eyes, the face, and the body?

2. Are there any behaviors which you could add to those listed which would help express the emotions more clearly?

3. Can one be taught to express warm positive emotions? Can one be taught to be dominant and aggressive with others?

4. Which of these behaviors that express positive emotions do you think might be recognized by people around the world? Could some of them be natural to humans? Could others involve learning that comes from similar experiences, such as the fact that most children grow up in an environment of caring adults?

5. What purposes could some of these natural behaviors serve?

#### NEXT ASSIGNMENT

"Bonds" pp. 24-31 , Student Booklet. "The Case of Charles Manson", pp. 32-34, Student Booklet.

## LESSON 7: THE FUNCTIONS OF BONDS

### OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Next Assignment</u>
The students read a brief life history of Charles Manson, and move from a discussion of it to a consideration of the role of bonds in society.	1 class period.	Aggression and Crowding, pp.35-40, Student Booklet.

### OBJECTIVES

Given the previous lesson and an examination of a brief life history of Charles Manson, the students will

1. List the possible effects of the absence of bonds (e.g., absence of empathy, problems in interpersonal relationships, absence of guilt).
2. State relationships between the absence of bonds and possible early antecedents (e.g., being touched, held, comforted, and taught).
3. List the important stages of early development (mother-child interactions, development of trust, interaction with peers, development of conscience).
4. Find parallels between human and animal development and speculate about the natural behaviors involved; and
5. Speculate about the role of bonds in creating certain kinds of human relationships and about society's investment in the relationships between humans and between humans and society.

## MATERIALS

The "Brief Sketch of the Life of Charles Manson," pp. 32-34 in the Student Booklet.

## BACKGROUND

The students have been introduced to ideas about bonding in humans and animals and have given special consideration to the behaviors that may reflect and strengthen human bonds. Now they should think about the relationship between bonding and social groups. Bonding is the social glue in groups and those groups are valuable to humans. Therefore, we can hypothesize that cultures promote bonding for the sake not only of individual survival but also for the culture itself.

As one approach to the topic of bonding and society, the lesson begins with an example of a person who appears to lack a normal capacity to form bonds. How might this deficit be understood? One suggestion is that the background of the highly aggressive, hardened criminal is similar to that of monkeys reared in isolation. That is, if the child is severely rejected it is as if there were no parents at all. As a consequence, the child will be unsocialized and unable to adjust to human society, just as the isolation-reared monkey cannot adjust to simian society.

## SUGGESTED TEACHING PROCEDURE

The reading in the booklet provides a basis for beginning the inquiry.

1. Charles Manson thought he belonged in prison. Why couldn't he get along outside prison? What was it about him that always got him into trouble?

2. How does trust affect personal relations? How is trust developed?

3. What keeps you from lying, stealing, or killing? Is it just the fear of punishment? Imagine yourself face to face with someone, looking that person in the eyes. What stops you from hurting that person?

4. How did Manson become the kind of person he is? What do you know about the studies of the early experiences of humans and animals that might help us expand his behavior?

5. We can approach the same ideas in another way. Imagine that you are in charge of a day care center for young children. How would you want your staff to behave toward the children? Be specific. Describe the behaviors they should show. How do you hope the children will respond to this treatment? What behavior do you hope the children will develop?

6. Would you want the older children in the day care center to obey some rules? What rules and why?

7. Would the day care children develop consciences? What is a conscience? Why might you want children to develop consciences? How would the conscience develop?

8. Why is it in the interest of a culture and its leaders to promote bonding?

9. Suppose we can make the rules for our culture. We can tell parents to treat their children in a way that encourages bonding behaviors, or we can tell them the opposite, to discourage bonding behaviors. Do you think certain kinds of personalities in children could be promoted by enforcing certain rules?

10. If cultural rules can determine what tendencies are encouraged or discouraged, what implications does this have for the understanding of behavior?

**NEXT ASSIGNMENT**

Aggression and Crowding pp. 35-40, Student Reader.

## LESSON 8: CULTURAL CHANGE

## OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Next Assignment</u>
Students consider the changes in culture that may lie in the future and discuss their versions of life in the future and its consequences.	1 class period.	The students prepare summaries of their observations for presentation in class; Cultural Evolution and Conclusion pp. 41-43, Student Reader.

## OBJECTIVES

Given the knowledge generated by the module and descriptions of possible changes in culture, the students will:

1. Define cultural evolution.
2. List possible changes in the environment and the ways in which these changes may affect human behavior.
3. Identify the changes that could threaten human adaptability.
4. Speculate about the natural limits of human adaptability; and
5. Identify changes in cultures that might facilitate adaptation.

## MATERIALS

Vignettes of life in the future to be prepared by the students.

## BACKGROUND

Although cultures change at different rates, many aspects of many cultures have been changing at an accelerating rate. A plot of culture over time yields a positively accelerated curve, a curve that rises at an ever-steeper angle. (You may wish to draw this curve on the board to provide a visual image of the rate of changes in our culture for the students). If this trend continues, your students can expect to see more changes in their lifetimes than their parents will have seen in theirs, and the parents, in turn, will have seen more changes than the grandparents. Indeed, if the founding of our country is used as a starting point, a plot of the number of periodicals published each year, or the number of new products introduced, or the number of scientific discoveries produces a positively accelerated curve.

Some of the changes in our culture are new ways of adjusting to the internal or external environment, and thus are directly linked to survival. New cures for diseases, new methods for farming, and new ways to predict and control the weather all promote the survival of both the individual and the culture.

We often equate change with progress, and we often assume, therefore, that change is good. But progress and good are evaluative judgments. One person sees a new factory as a sign of jobs and economic growth, but another person sees it as a waste of raw materials and a source of pollution. The great diversity of values among people should be remembered when we compare one culture to another. You must be alert to any suggestion that cultures that are less highly developed in science and technology are therefore inferior to our own. Students should understand



that the people of these cultures may prefer their way of life, or at least some aspects of it, to ours.

Cultural evolution occurs faster than biological evolution. This lesson asks students to think about how our behavior may change in the future and whether there may be natural limits to how much our behavior can change. The varieties of human cultures suggest that we are very flexible; but there may be limits to our adaptability. Even the rate of change can cause problems. Changes of job or residence, for example, can produce physical stress, and when a person undergoes several important changes in a short period, physical illness can result.

#### SUGGESTED TEACHING PROCEDURES

The teacher should ask the students to prepare 1-3 paragraph compositions of their versions of life in the future. These compositions will then be presented by each student to the class.

The directions for the composition follow.

Imagine you live in a future environment. In what ways would your daily life be different from the way it is now? What would happen to you in the morning, afternoon, and evening? What would be the most important ways in which your life would change?

Once all the compositions are presented the class discussion might concern some of the following questions.

1. We have discussed territories, bonding, and other behaviors that might be natural to humans. How would the changes you have described affect such natural tendencies? Do you think there might be natural limits to the degree we could adapt to changes?

2. Could we change our culture's rules for living in order to help us adapt to these changes?

3. Can you think of a way that we could use animals to study this problem?

4. How might the quality of life be affected by some of the changes predicted?

#### NEXT ASSIGNMENT

Presentation of Reports on observations of natural behavior. Cultural Evolution and Conclusion pp. 41-43, Student Reader,

•

## LESSON 9: REPORTS OF OBSERVATIONS: CONCLUSIONS

## OVERVIEW

<u>Activity</u>	<u>Time Required</u>	<u>Assignment</u>
The students give and listen to reports of observations of natural behaviors.	1-2 class periods.	None.

## OBJECTIVES

Given the reports of their observations, the students

1. Gain experience in reporting observations publicly.
2. Hear and discuss the reports in the light of what they have learned.

## SUGGESTED TEACHING PROCEDURE

The following questions can serve as general guidelines. You and the students can interject questions, comments, or supporting observations that expand the discussion according to your interests. Questions that call for interpretations of the results or for new ideas or for solutions to problems should be addressed not only to the students presenting their projects but to the entire class as well.

1. Where did you go for your observations, and when? Set the stage and tell us what the situation was like. Who were the subjects? How close to them were you? What was going on around you?

The environmental setting must be described carefully because the question of natural behaviors involves the relationship between these behaviors and the environment. This point and the need for a precise description of the setting may be an important part of the discussion later.

2. What did you see? Describe the behaviors in as much detail as you can. How did you record your observations?

3. What problems did you encounter?

4. Do you think these behaviors or some part of them, could be considered natural behaviors? How can you relate these behaviors to any of the topics we've read about or discussed in class?

At this point, the rest of the class can be asked to contribute ideas.

5. Why might these behaviors be natural behaviors? How could they help adaptation to the environment you have described? What role does learning play in these behaviors?

HBCP Unit: Natural Behaviors  
in Humans and Animals

Handout #1  
Lesson #1

OBSERVER SHEET

Carefully watch each student as he or she approaches and passes between the two people talking in the doorway. In particular, watch for the behaviors listed below. For each student, you must record whether he/she did or did not show each of the behaviors. Make a mark in the YES or NO column.

Do not discuss your recordings with the other observer. The two sets of observations must be kept independent of each other. Do not smile at, or talk to, or in any way interact with the students you are observing. They must react to the experience of crossing between two people having a conversation. They must not react to you.

As the student entered the classroom did he/she"

	YES	NO
BOW HEAD SLIGHTLY FOR A MOMENT		

LOWER THE GAZE OF THE EYES BRIEFLY

PARTIALLY CLOSE THE EYES BRIEFLY

MAKE A MOUTH MOVEMENT (frown,  
purse lips, tighten lips)

List any emotions you think the students reveal as they cross between the two people.

Add up the marks in each box. You will be asked to summarize your recordings during the class discussion.

HBCP Unit: Natural Behaviors  
in Humans and Animals

Handout #2  
Lesson #1

STUDENTS' REACTION SHEET

Please fill out this sheet immediately. Do not discuss your answers with others.

1. Try hard to remember your experiences as you entered the classroom just now. Did you notice the two people talking in the doorway?  
YES or NO (circle one)
2. As you walked between the two people in the doorway, did you feel any emotional reaction to them or to the situation? YES or NO
3. If you answered YES to question 2, describe what you felt"
4. How did you behave as you walked between them? Describe how you acted at that moment"
5. There are some behaviors you may not have thought about when you answered question 4. When you walked between the two people in the doorway, did you bow your head slightly? YES or NO  
Did you lower your eyes for a second? YES or NO  
Did you close your eyes slightly? YES or NO  
Did you move your mouth (for example, did you frown or purse your lips)? YES or NO

After you have answered the questions above, you may watch others as they enter the classroom. It is important that you do not interact with them in any way. Do not smile at them or talk to them, or else they may respond to you and not to the situation in the doorway.

For each student, record whether he or she did or did not show each of the behaviors listed below. Make a mark in the YES or NO column. As

Handout #2  
Page 2

the student passed between the two people in the doorway, did he or she:

YES

NO

BOW HEAD SLIGHTLY FOR A MOMENT?

LOWER THE GAZE OF THE EYES BRIEFLY

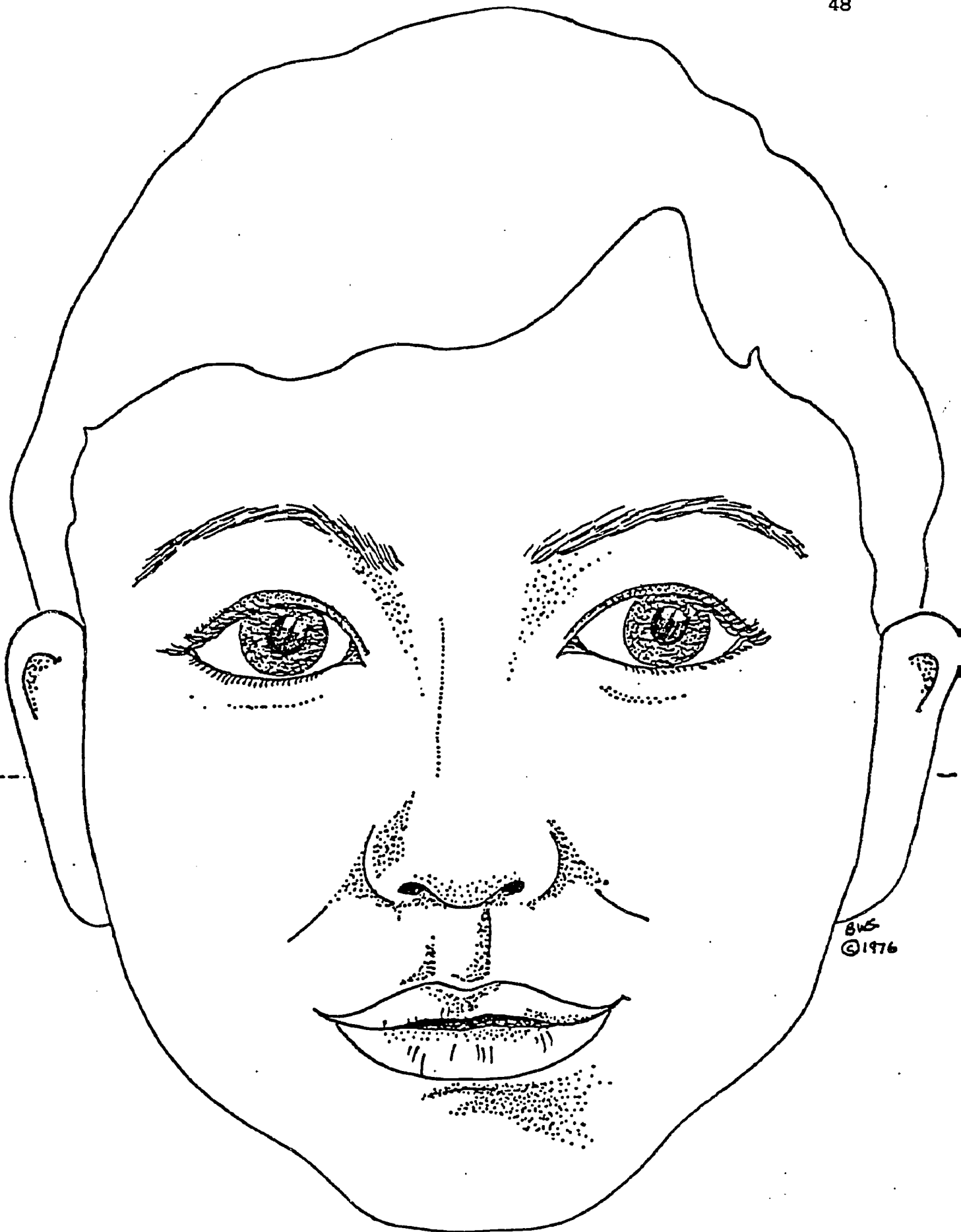
PARTIALLY CLOSE THE EYES BRIEFLY

MAKE A MOUTH MOVEMENT (frown, purse  
lips, tighten lips)

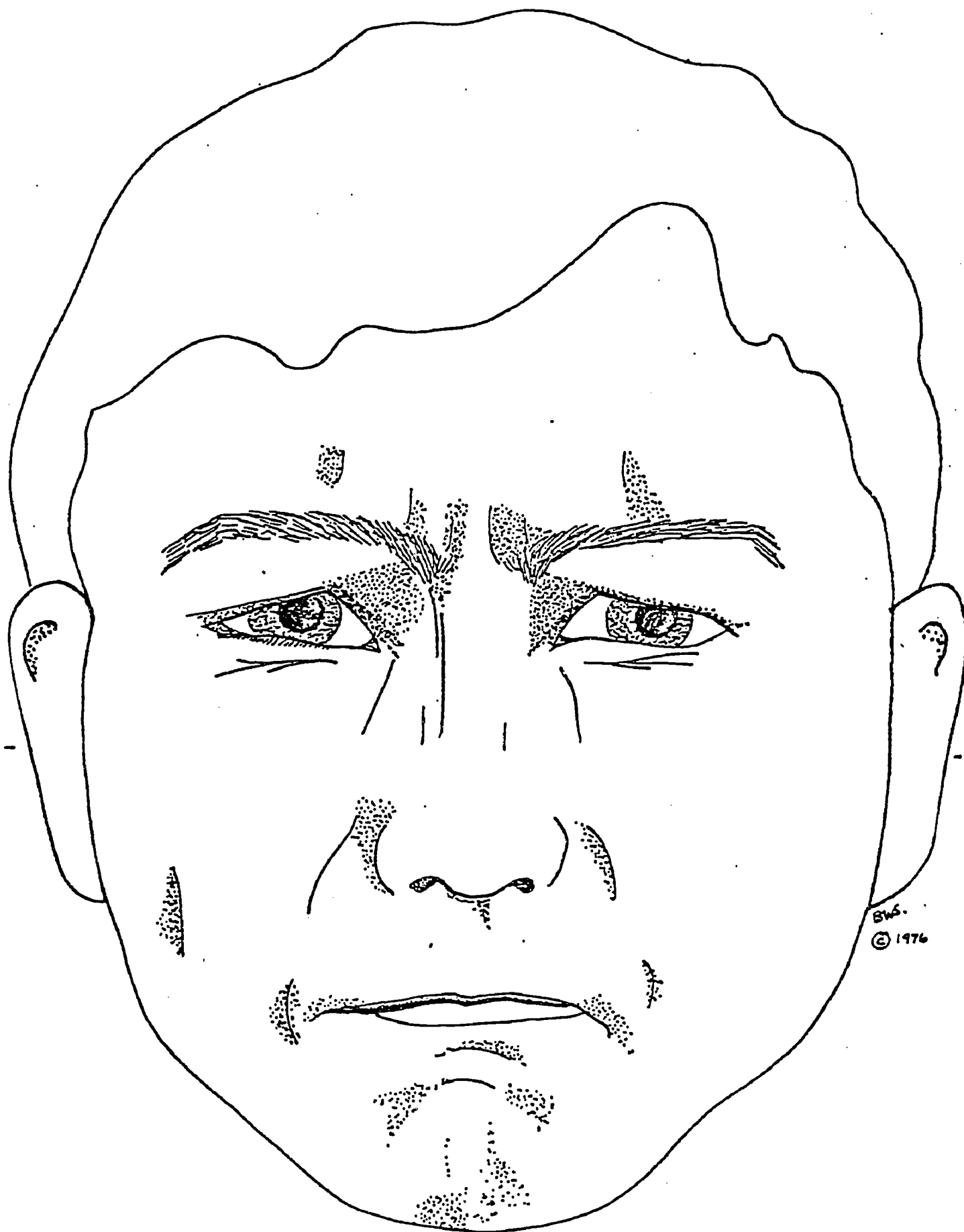
**HBCP UNIT: Natural Behaviors  
in Humans and Animals**

Handouts 3 through 8 for Lesson 2 follow.  
They are labeled at one side A1, B2, C3, D4, E5 and F6.





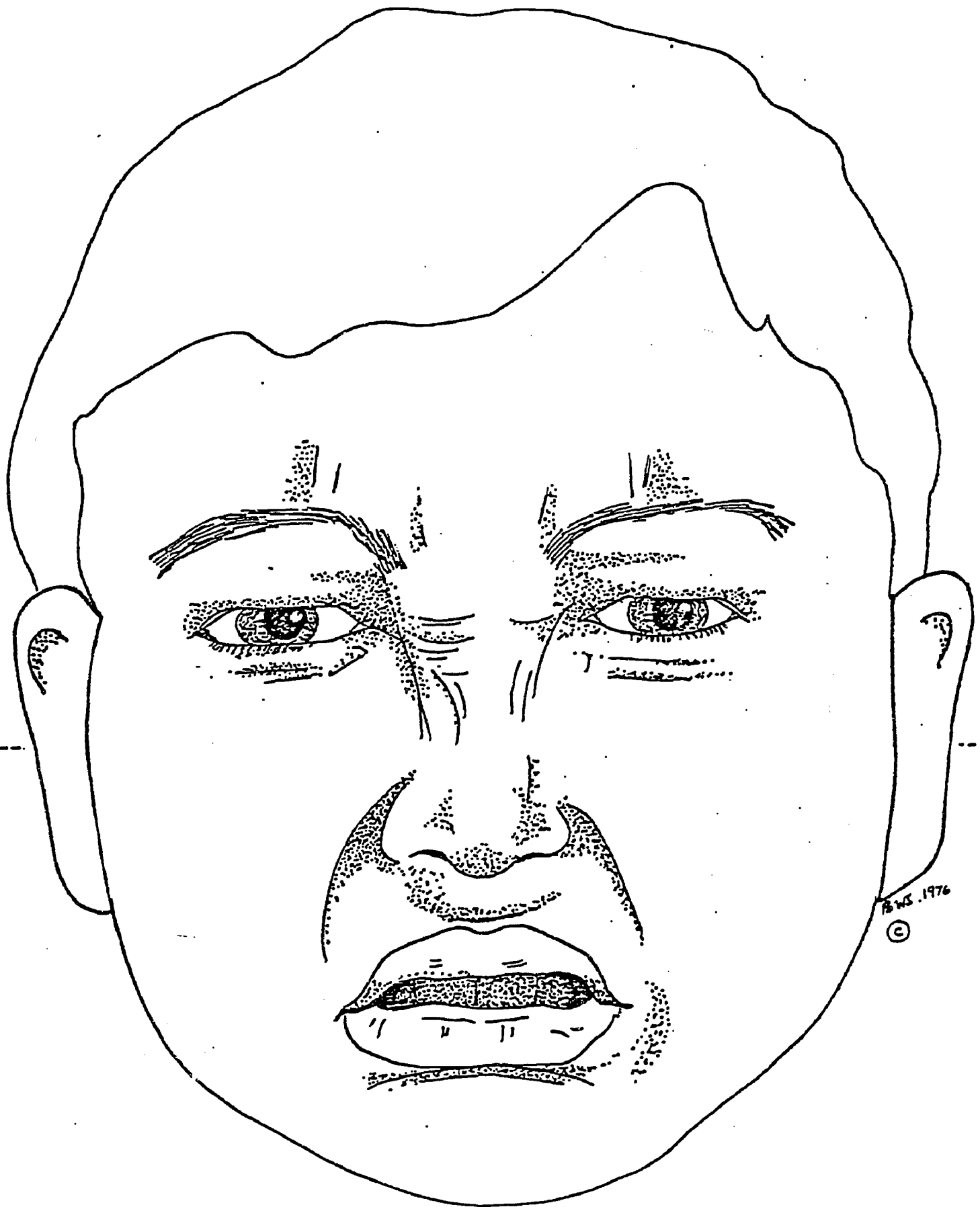
845  
©1976

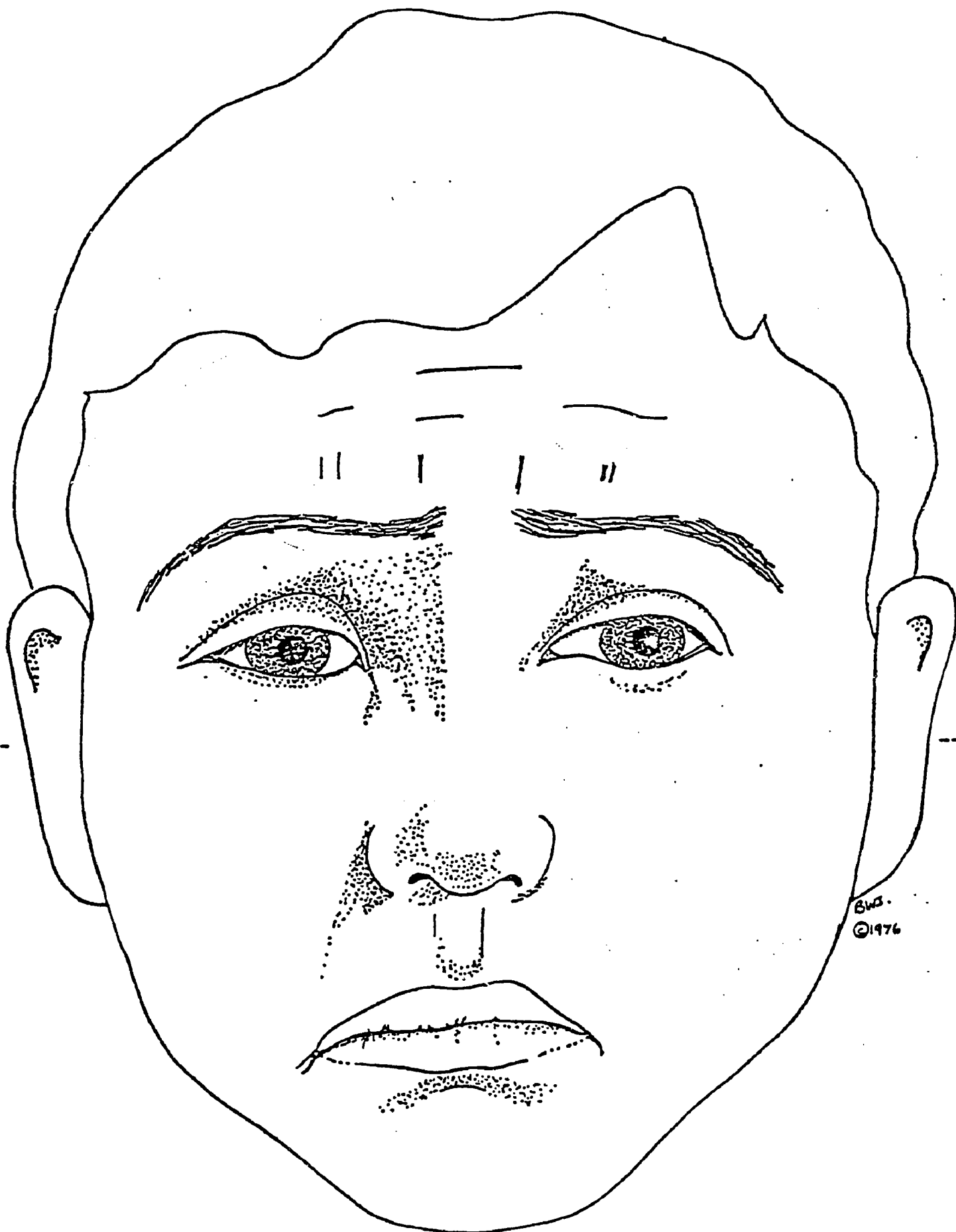


B

2

BWS.  
© 1976

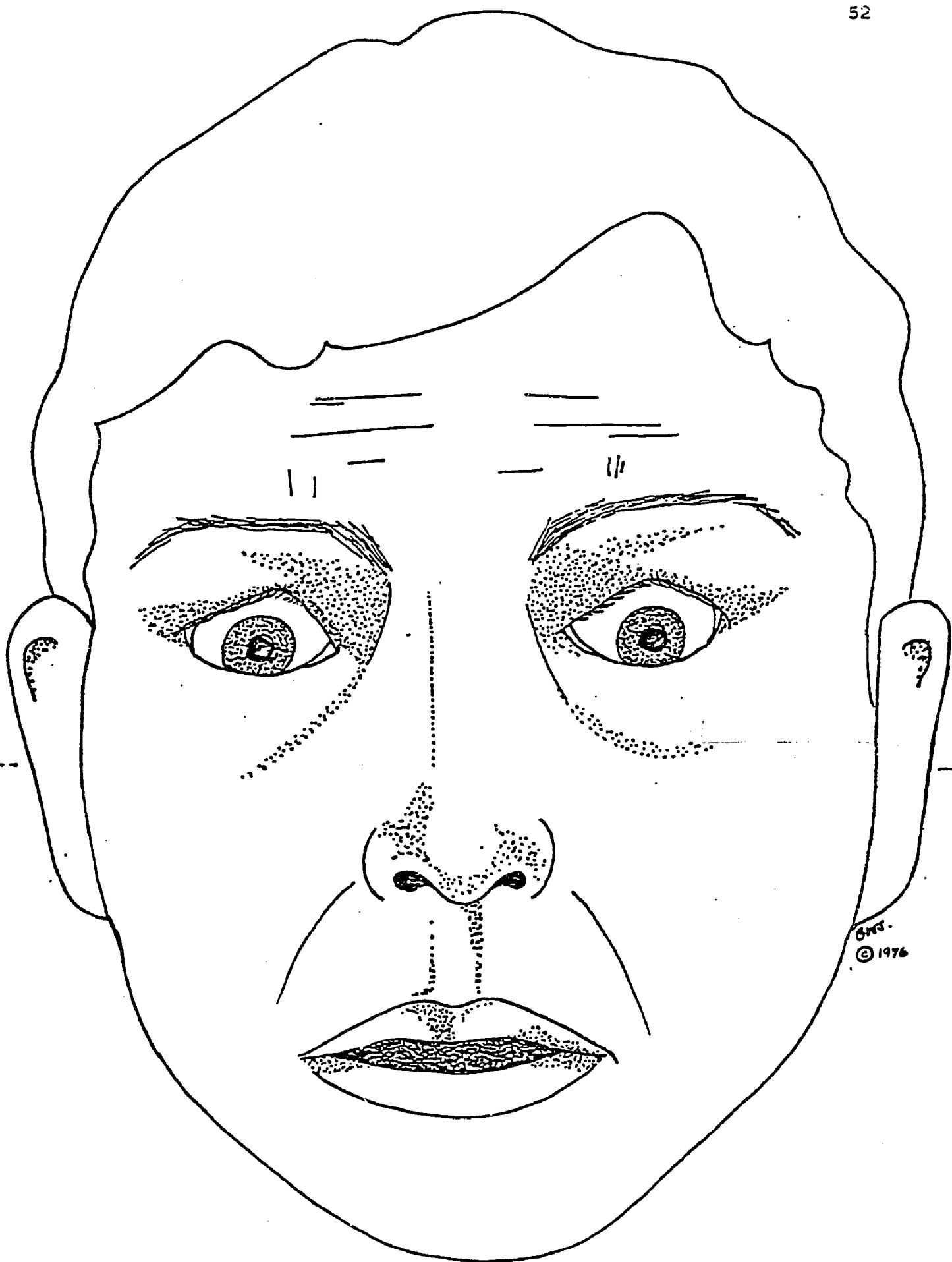




D

4

BWA.  
©1976





BWS.  
©1976

GUIDELINES FOR THE USE OF HUMAN PARTICIPANTS IN RESEARCH  
OR DEMONSTRATIONS CONDUCTED BY HIGH SCHOOL STUDENTS<sup>1</sup>

Committee on Psychology in the Secondary Schools  
American Psychological Association

High school students planning to use human participants in research or demonstrations are strongly urged to become thoroughly acquainted with the American Psychological Association's Ethical Principles in the Conduct of Research with Human Participants.<sup>2</sup> The potential problems are often not immediately evident to those doing research for the first time. Among specific guidelines for the use of human participants in research or demonstrations conducted by high school students are the following:

1. All research and demonstrations involving human participants should be properly supervised by a qualified school authority.

The supervisor should assume the primary responsibility for all conditions of the experiment. The following requirements should be fulfilled:

- a. The supervisor should be familiar with the relevant literature concerning previous work done in the student's chosen area. When possible, the student should also review and summarize appropriate reading material.
- b. A written preliminary outline of the student's plan of study, to include a statement of possible outcomes of the project and a description of how the student plans to accomplish the objective of the study, should be submitted and be available for evaluation by relevant school authorities. Such an outline should include the general and specific purposes of the research or demonstration and a justification of the methods to be employed.

2. Participants should not be exposed to undue physical or mental risk.

High school students should not undertake procedures involving human participants that are likely to harm the participants. Participants should

not be subjected to any risks greater than those involved in ordinary social interactions. To assure compliance with this guideline, high schools are encouraged to form student-faculty committees that examine all research or demonstration proposals from the point of view of the APA's Ethical Principles in the Conduct of Research with Human Participants, weighing risks against potential benefits. Such committees might be constituted at the classroom level, across classes, at the department level, or school-wide.

3. Agreement to participate should be obtained from all participants.

The individual conducting the project should obtain each participant's agreement to participate, based on a full understanding of what that agreement implies. Obtaining agreement involves providing a full explanation of the research or demonstration procedures with special emphasis on aspects of the project likely to affect willingness to participate. All questions asked by any prospective participant should be answered directly, honestly, and completely. Participants who are too young or for other reasons cannot comprehend the project should be excluded, or proxy consent should be obtained from parents or guardians; this principle also applies to the siblings of the person conducting the project. A clear and fair agreement that clarifies the responsibilities of both should exist between the individual conducting the project and the participant. All promises and commitments included in that agreement should be honored by the person conducting the project. Such a formal agreement may not be necessary in some studies of public behavior, but in such studies it is especially crucial that participants' rights not be infringed.



4. Participants should have the right to refuse to participate.

Potential research participants have the right to refuse to participate and the right to withdraw from participation, for cause, at any time during the course of the research or demonstration procedures. The person conducting the project should explain this right to all potential participants prior to the commencement of the research or demonstration procedures. The person conducting the project should also provide opportunity for withdrawal with minimum discomfort during participation, particularly if a group activity is involved.

Protection of this right requires special vigilance when the individual conducting the project is in a position of influence over the participant. For example, students in lower grades than the person conducting the project should not be pressured into participating and should not be publicly identified if they decline to participate in a particular experiment, survey, or demonstration. Under no circumstances should potential participants be exposed to ridicule, force, or excessive group pressure.

5. The student should deal with possible undesirable consequences for participants.

The supervisor should discuss with the students possible undesirable consequences of the project that should result in at least a temporary halt to the project. In the event that unanticipated undesirable consequences are detected by the individual conducting the project, he or she should halt the project if it is still in progress, and notify the supervisor or other appropriate school authorities.

6. The anonymity of the information gathered should be preserved.

In certain projects, a participant may not wish the person conducting the project to disclose the results of the study in a way that individually identifies that participant. Only with the participant's full agreement can the person conducting the project disclose identifiable information about that participant to any other individual. A plan for protecting the anonymity of the information gathered should be a part of the procedure for obtaining initial agreement to participate. The person conducting the project should make every effort to maintain anonymity, but participants should be made aware that in some cases it may be difficult or impossible to maintain full anonymity about all of the information obtained. Formal agreement to participate may not be necessary in some studies of public behavior, but preservation of anonymity is as important in the observation of public behavior as it is in other research or demonstrations. In public situations, information should not be collected in such a way that individuals are identifiable.

It is suggested that persons conducting projects encourage potential participants to read these guidelines. To ensure a careful reading and adequate understanding of these guidelines, persons conducting projects may wish participants to sign a statement such as that below.

I have read the Guidelines for the Use of Human Participants in Research or Demonstrations Conducted by High School Students. I have received satisfactory answers to my questions concerning this research or demonstration. I understand that every effort will be made to protect the anonymity of my responses, although it cannot be guaranteed. I understand that I may withdraw from this research or demonstration without penalty at any time.

---

Name

---

Signature

---

Date

## Footnotes

<sup>1</sup>These guidelines were approved by the Education and Training Board, and have been submitted to the Board of Directors and the Council of Representatives of the American Psychological Association for approval. They are a condensed version of the APA's official guidelines for the use of human participants in research and represent a distillation of the customary procedures of responsible, experienced research psychologists. Adherence to these principles will provide protection not only to the participants in research or demonstration projects conducted by high school students, but also to the individuals undertaking or responsible for such research or demonstrations, both students and teachers.

<sup>2</sup>Copies of Ethical Principles in the Conduct of Research with Human Participants are available for \$3.50 from the Order Department, APA, 1200 Seventeenth Street, N. W., Washington, D.C. 20036.

GUIDELINES FOR THE USE OF ANIMALS IN SCHOOL SCIENCE  
BEHAVIOR PROJECTS<sup>1</sup>

Committee on Precautions and Standards in Animal  
Experimentation

With today's emphasis on the advancement of science, more and more intermediate and secondary students are participating in classroom science projects which involve experiments with live animals. Live animals should be used in classroom situations for their educational value in achieving instructional objectives and not as research contributing new knowledge to human health and welfare, as would be expected from a research facility.

1. In the selection of science behavior projects, students should be strongly urged to select small animals that are easy to maintain or invertebrates as subjects for evaluation.
2. All experiments must be preplanned and conducted in such a manner that respect for basic animal life and all humane considerations are fully understood and carried out by the student.
3. Each student undertaking a science project using animals must have a qualified supervisor. Such a supervisor shall be a person who has had training and experience in the proper care of small and laboratory-type animals. The supervisor must assume the primary responsibility for all conditions of the experiment. The following requirements must be fulfilled:
  - (a) The student shall research and study the appropriate literature concerning previous work done in the student's chosen area.
  - (b) A written preliminary outline of the student's plan of action and anticipated outcome for the science project shall be submitted and be avail-

able for evaluation. Such an outline should include the specific purpose of the research and a justification of the methodology.

4. Legislation and guidelines for specific care and handling of all animals do exist. Students, teachers, and supervisors must be cognizant of such legislation and guidelines. Copies of appropriate humane laws are available by contacting the local humane organization and the American Humane Association, P. O. Box 1266, Denver, Colorado, 80201. Each state also has specific animal health regulations which must be considered. Copies of animal health regulations are obtainable from the state veterinarian or state public health office.

5. No student shall undertake an experiment which includes the use of drugs, surgical procedures, noxious or painful stimuli such as electric shock, extreme temperature, starvation, malnutrition, ionizing radiation, etc., except under extremely close and rigorous supervision of a researcher qualified in the specific area of study.

6. Students using animals must insure for the proper housing, food, water, exercise, cleanliness, and gentle handling of such animals at all times. Special arrangements must be made for care during weekend, holiday, and vacation periods. The comfort of each animal, by meeting its basic daily needs, shall be of prime concern. Caution must be taken to avoid the animals being teased or harmed by other students.

7. When the research project has been completed and the student does not wish to maintain the animal(s) as a pet, arrangements shall be made for proper disposition by the supervisor. Under no circumstances should the student be allowed to provide "experimental" euthanasia.

8. Specifications for the detailed treatment of animals are available from the American Psychological Association, Office of Scientific Affairs, 1200 Seventeenth Street, N.W., Washington, D.C. 20036.

9. A copy of these Guidelines shall be posted conspicuously wherever animals are kept and projects carried.

<sup>1</sup>These Guidelines were approved by the Board of Scientific Affairs, the Education and Training Board, the Board of Directors, and the Council of Representatives of the APA.

<sup>2</sup>Members of the Committee are William Mason, Bruce Halpern, John Davenport, Daniel Lehrman, Richard Walk, and Seymour Levine (Chairman).

Requests for reprints should be sent to Committee on Precollege Psychology, Office of Education and Training, American Psychological Association, 1200 Seventeenth Street, N.W., Washington, D.C. 20036.

HBCP Module: Natural Behaviors  
in Humans and Animals

OBSERVATION SHEET: THE WORDS AND ACTIONS OF EMOTION

DIRECTIONS

Watch each scene very carefully. You must search for the signs of emotion. What words do the characters use that tell you about their emotions? What actions do they use to signal their emotions. Write down as many important words and actions as you can.

-----

The Story: Briefly, what is the story about? Are the people in the story positive or negative toward each other?

Emotional Words: Write as many emotional words as you hear (for example, love, hate, good, bad, nice, want, and happy are words you might hear).

Emotional Actions: Write down as many of the characters' actions as you can if you think they tell you about their emotions (for example, smile, frown, touch, turn away, and fold arms across chest may all suggest emotions to you).

Eyes - where do they look?

Facial expressions:

Use of hands, arms, & legs:

Body posture (lean forward

or back, face toward or away):

The Story: Briefly, what is the story about? Are the people in the story positive or negative toward each other?

Emotional Words: Write as many emotional words as you hear (for example, love, hate, good, bad, nice, want, and happy are words you might hear).

Emotional Actions: Write down as many of the characters' actions as you can if you think they tell you about their emotions (for example, smile, frown, touch, turn away, and fold arms across chest may all suggest emotions to you).

Eyes - where do they look?

Facial expressions:

Use of hands, arms, & legs:

Body posture (lean forward or back,  
face toward or away):

-----

The Story: Briefly, what is the story about? Are the people in the story positive or negative toward each other?

Emotional Words: Write as many emotional words as you hear (for example, love, hate, good, bad, nice, want, and happy are words you might hear).

Emotional Actions: Write down as many of the characters' actions as you can if you think they tell you about their emotions (for example, smile, frown, touch, turn away, and fold arms across chest may all suggest emotions to you).



Eyes - where do they look?

Facial expressions:

Use of hands, arms, & legs"

Body posture (lean forward  
or back, face toward or away):

-----

The Story: Briefly, what is the story about? Are the people in the  
story positive or negative toward each other?

Emotional Words: Write as many emotional words as you hear (for example,  
love, hate, good, bad, nice, want, and happy are words you  
might hear).

Emotional Actions: Write down as many of the characters' actions as you  
can if you think they tell you about their emotions (for example,  
smile, frown, touch, turn away, and fold arms across chest  
may all suggest emotions to you).

Eyes - where do they look?

Facial expressions:

Use of hands, arms, & legs:

Body posture (lean forward or back,  
face toward or away)"

-----

## APPENDIX

## ROLE DESCRIPTION SHEET

1. Study Hall Teacher. You are strict, but basically you trust your students and think they should be allowed to behave responsibly. You also think that students should obey school rules even if they do not agree with the rules.  
Student. You want to get out of study hall, but you do not have a pass.
2. A young man is proposing to his girlfriend.
3. An advertising executive is interviewing a job applicant.
4. A woman is reacting to a youth attempting to steal her purse.
5. Two young football players benched during the game are watching their teammates play.
6. A couple is watching a horse race, during which the horse they bet their life savings on, is several lengths behind the rest.
7. Boyfriend or Girlfriend. Your girlfriend or boyfriend saw you talking with someone else of the opposite sex. You want to be sure that she or he is not upset, because you care about your relationship with her or him.  
Girlfriend or Boyfriend. You saw him or her talking with someone else. You are angry or jealous or unhappy or suspicious or confused (perhaps all of these at once). You hope there is a good explanation.